

PATENT  
ATTORNEY DOCKET NO. DIVER1230-1  
(09010/045001)

Applicants: Mathur, et al.  
Serial No.: 09/202,681  
Filed: December 23, 1999  
Page 2

In the claims:

Please amend claims 1, 2, 5, 10 and 11 to read as follows:

1. (Thrice Amended) An isolated polynucleotide selected from the group consisting of:
- (a) a polynucleotide encoding a thermostable phosphatase comprising an amino acid sequence as set forth in SEQ ID NO:28;
  - (b) a polynucleotide which is complementary to the polynucleotide of (a); and
  - (c) a polynucleotide comprising at least 15 contiguous bases of the polynucleotide of (b);

wherein the polynucleotide of (b) or (c), but not (a), identifies a polynucleotide that encodes a polypeptide having thermostable phosphatase activity by hybridizing thereto.

2. (Thrice Amended) An isolated polynucleotide selected from the group consisting of:
- (a) SEQ ID NO:19;
  - (b) SEQ ID NO:19, where T can also be U; and
  - (c) fragments complementary to the polynucleotide of a) or b) that are at least 15 contiguous bases in length and that specifically identify DNA which encodes a thermostable phosphatase by hybridizing thereto;

wherein the isolated polynucleotide of (a) or (b), but not (c), encodes a thermostable phosphatase.

PATENT  
ATTORNEY DOCKET NO. DIVER1230-1  
(09010/045001)

Applicants: Mathur, et al.  
Serial No.: 09/202,681  
Filed: December 23, 1999  
Page 3

5. (Thrice Amended) An isolated polynucleotide comprising a member selected from the group consisting of:
- (a) a polynucleotide having at least 70% identity to a polynucleotide sequence contained in ATCC Deposit No. 97379, wherein said sequence is obtained from *Ammonifex deganesis* KC4, which sequence encodes an enzyme having thermostable phosphatase activity;
  - (b) a polynucleotide complementary to the polynucleotide of (a); and
  - (c) a polynucleotide comprising at least 15 contiguous bases of the polynucleotide of (b), wherein the polynucleotide identifies a polynucleotide of (a) by hybridizing thereto.

10. (Thrice Amended) A thermostable phosphatase of which at least a portion is encoded by a polynucleotide of claim 1, said thermostable phosphatase comprising an amino acid sequence which is at least 70% identical to an amino acid sequence as set forth in SEQ ID NO:28, or at least 30 contiguous amino acid residues of thereof, and having activity as a thermostable phosphatase.

11. (Thrice Amended) An enzyme of which at least a portion is encoded by a polynucleotide of claim 1, said enzyme comprising an amino acid sequence as set forth in SEQ ID NO:28, or at least 30 contiguous amino acid residues thereof, and having activity as a thermostable phosphatase.